

- 4. The physical and chemical characteristics of the dredged material will determine the potential end uses. An estimate of the amount of material in each classification (clays, silts, fine sand, coarse sand, shell, etc.) should be provided. An estimate of the economic potential for each class should be provided to offer some confidence that the ultimate use is realistic. Disposition of each class for which there is no viable or economic potential should be presented. Alternatives should be provided to demonstrate the viability of managing classes of marginal economic value. Otherwise, direct disposal options should be presented. Approximations of the physical and chemical standards that would be applicable for the various end uses should be presented and compared with known or estimated sediment characterizations to substantiate the viability of the most likely projected end uses.**
- a. Has AES corresponded with any potential end users? Provide any correspondence with these end users. If not, how does AES know that this material will be accepted somewhere?**
- b. What type of beneficial use or upland disposal facilities are currently being used by other DMRFs, e.g. the DMRF in New Jersey? How much material does this and other recycling facilities process on a regular daily basis?**

Response:

- 4.** AES agrees that the “physical and chemical characteristics of the dredged material” will be important factors in determining “potential end uses” for the processed dredged material. Other factors to be considered by AES in determining potential end uses will be economics and transportation logistics.

With regard to the estimate of the amount of material in each classification (clays, silts, etc.), AES has developed preliminary estimates of the physical types of dredged material to be encountered in its dredging project based on field sampling; however, based on discussions with ACOE, USEPA, and FERC on August 1, 2007 (and later confirmed in a separate meeting with ACOE and USEPA on August 17, 2007), additional field sampling will be required in the area proposed to be dredged. (Note that MDE representatives were present at the August 1 meeting and MDE was copied on AES’s correspondence with FERC as to the anticipated schedule of completion of the sampling and analysis programs). Because AES desires to provide MDE with only the most accurate information possible, AES will wait until the results from the new field samples are analyzed and provide MDE an estimate of the amount of material in each classification at that time.

AES has explored multiple disposal/upland beneficial use options for the processed dredged material. Depending upon the ultimate project schedule (for both the dredging project and each disposal/beneficial use site), some of these options may or may not be available during the actual dredging project timeframe. Conversely, additional sites that have not yet been identified are certain to become available. AES is continuing discussions with numerous options for upland disposition of the material from the proposed dredging project.

AES has developed a disposal matrix providing a listing of various potential disposal sites. This matrix was included in Attachment 9 of AES’s response to MDE’s May 7, 2007 data request. The matrix itself is divided into categories of potential end uses dependent upon the

chemical makeup of the processed dredged material. The matrix further identifies physical standards that may apply to each potential end use category. This matrix will be periodically updated as the AES Project moves through the permitting and development stage to identify new sites and end uses. AES is confident that sufficient outlets will be available at the time of dredging to handle the entire volume of dredged material from the dredging project. Reference is made to the response to 4.b. below in further support of the feasibility of this approach.

Regarding MDE's comments regarding the "realistic" "economic potential" for each disposal option, AES has committed to funding the proposed dredging/recycling project in its entirety without using any public dollars. As such, AES will make the final decision regarding the economic viability of the potential end uses. While the dredge/recycling program represents an important piece of AES's proposal to bring new supplies of clean-burning natural gas to Maryland and the Mid-Atlantic Region via the import terminal proposed at Sparrows Point and the associated 88-mile pipeline, it is only a small piece of the Project. AES is comfortable that the range of economics presented in response to 4.b below is well within the overall economics of the Project.

- 4.a.** As noted above and in prior communications with MDE, AES has engaged in preliminary discussions with many potential end users of the processed dredged material. Correspondence documenting those discussions is not available.

The preliminary discussions described above, coupled with the widespread commercial availability of end uses for processed dredged material described in response to 4.b below (all of which would be available in Maryland and adjoining states), have provided AES with confidence that the processed dredged material will be put to beneficial use "somewhere."

- 4.b** Commercial DMRFs in operation today have utilized multiple beneficial use sites for processed dredged material in addition to numerous landfill disposal options and several soil recycling facilities. To date, over 20 different projects have utilized in excess of 6 million cubic yards of processed dredged material in five different states. These beneficial uses include mine reclamation, landfill capping and closure projects, Brownfield redevelopment sites, infrastructure improvement projects, and golf course construction to name just a few.

The following is a detailed listing of categories of upland disposition sites/projects used for processed dredged material from DMRFs in the New York/New Jersey harbor:

- i. Brownfield Redevelopment Sites – In New Jersey, numerous Brownfield sites have utilized processed dredged material for grading and capping as part of the preferred remedial action and redevelopment at these sites. Both contaminated (with appropriate processing) and uncontaminated dredged material has been utilized at these sites. Dependent upon proximity to the DMRF, costs for management of the processed dredged material (excluding processing) to the Brownfield sites range from \$0 to \$12 per cubic yard.
- ii. Landfill Capping & Closure – Several landfill capping and closure projects in New Jersey and New York have utilized processed dredged material as grading and capping material. Contaminated (with appropriate processing)

AES Sparrows Point LNG, LLC and Mid-Atlantic Express, LLC
Responses to MDE August 15, 2007 Data Request
Application Tracking Number: 200761377/07-NT-0125/07-WL-1301

dredged material has been utilized as grading material beneath a geomembrane and uncontaminated dredged material has been utilized as capping material above the liners. In some cases, the low permeability characteristics of the processed dredged material have allowed for use of the material in construction of the barrier layer itself. Dependent upon proximity to the DMRF, costs for management of the processed dredged material (excluding processing) to the landfill closure sites range from \$6 to \$30 per cubic yard.

- iii. Mine Reclamation – Following a successful demonstration project, the State of Pennsylvania has issued a General Permit authorizing the use of processed dredged material for strip mine reclamation. PADEP has authorized processed dredged material meeting the PADEP's Regulated Fill Criteria for this use. Dependent upon proximity to the DMRF, the costs for management of the processed dredged material (excluding processing) to the mine reclamation sites range from \$18 to \$38 per cubic yard. For information purposes, an article from the Washington Post dated November 3, 2006 (describing the environmental problems associated with abandoned coal mines in Maryland) and two press releases dated December 17, 2003 and February 24, 2004 (describing the success of the Bark Camp mine reclamation project referenced above) are included in Attachment 4.b.
- iv. Landfill Daily Cover – Landfills require large volumes of select material for use as cover in daily operations. Processed dredged material has been utilized as daily cover at operating landfills in Pennsylvania, New York, and New Jersey. Dependent upon proximity to the DMRF, the costs for management of the processed dredged material (excluding processing) to the landfill sites range from (\$5) to \$10 per cubic yard.
- v. Golf Course Construction – Some golf course construction projects have required large volumes of grading fill material. Processed dredged material has been utilized for that purpose at several projects in New Jersey. Dependent upon proximity to the DMRF, the costs for management of the processed dredged material (excluding processing) to the golf course construction sites range from \$3 to \$15 per cubic yard.
- vi. General Construction Fill and Roadway Embankment – In addition to the categories presented above, aggregates produced from dredged materials have been sold into all of the above uses and as general construction fill for prices ranging from \$1 to \$15 per cubic yard.

In current commercial operations, DMRFs can process upwards of 6,500 cubic yards in a single shift. Based on the number of shifts employed and the types of dredged material being processed, this capacity can increase to an average of 10,000 cubic yards per day.